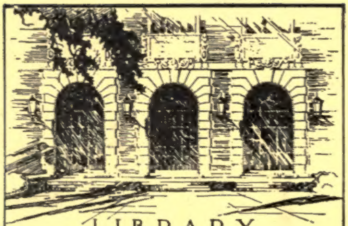

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NON-MARINE SHELLS FROM BORNEO

Collected by the Borneo Zoological Expedition, 1950

FRITZ HAAS
CURATOR, DIVISION OF LOWER INVERTEBRATES

While their own interests were centered on the collecting of vertebrates, my colleagues of Chicago Natural History Museum, Messrs. D. Dwight Davis and Robert F. Inger, nevertheless did not overlook the mollusks, and they gathered material that does not lack real importance, though limited in numbers. Aside from some tropical shore mollusks, common all over the Indo-Pacific region, they collected the following land shells.

Xestina themis E. A. Smith. Figure 131.

One specimen from the Kinabatangan District, East Coast Residency, North Borneo, southeast end of Dewhurst Bay, May, 1950.

Originally described as a *Xesta* from a single specimen in 1895, this species apparently has never been found again. The specimen before me seems to correspond perfectly to the original description; it is, however, much larger, with a greater diameter of 29.9 mm. and 6½ whorls, whereas the type is said to have a greater diameter of only 19 mm. and 5 and a fraction whorls. Kobelt, who dealt

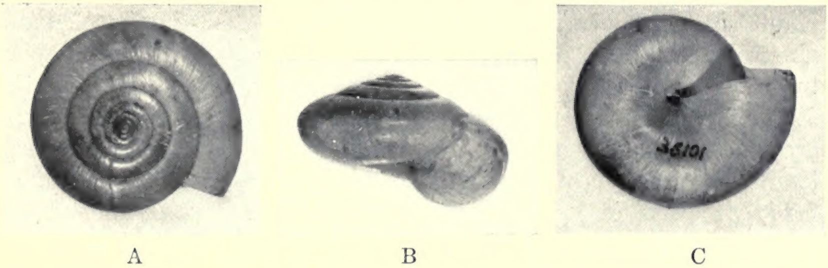

FIG. 131. *Xestina themis* E. A. Smith; × 1. A. View from above. B. Front view. C. View from below.

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with this species in 1900, hints that the type is not quite adult, a suggestion apparently corroborated by the specimen in my hands, which is shown in our figure 131.

Dyakia duumvirorum sp. nov. Figures 132, 133.

Type.—Chicago Natural History Museum No. 38102, from six miles east-southeast of Kuching, Sarawak, in secondary growth forest.

Diagnosis.—A species of *Dyakia* characterized by its bright coloration with black and greenish bands on a maroon purple background.

Comparisons.—Of all the species of *Dyakia* listed by Laidlaw in 1931, only *D. lindstedti* Pfeiffer seems to be closely related to our new species; it is of the same size and it has a very similar shell, as far as can be judged from the original description (1859) of this as yet unfigured shell. It differs from the new species by being unicolor, reddish-yellow.

Description of type.—Shell sinistral, narrowly perforate, low-conically lenticular, keeled, thin, transparent, finely striate, the striae becoming granular, beginning with the penultimate whorl. On the earlier whorls this granulation is not present, but they are characterized by rather obvious alternating humps and depressions. Shell dull, with a basic color of maroon purple, which is narrowed, on the upper surface, to a central band; suture linear, bordered by a narrow white band that contains green and blue hues; next to this white band, a black one, somewhat wider; then a band of the basic color, about six times as wide as the foregoing; then another black band about half as wide as the central one, which is bordered in part by a greenish or bluish-white peripheral band twice as wide as the foregoing. On the under side of the shell, there are, besides the greenish or bluish-white band at the keel, only two narrow black bands, one subsutural and one at some distance around the umbilical field, which is of light yellowish color. The granulation of the surface continues on the under side to within the subsutural black band. Spire regularly elevated, with straight outline, whorls 6¾, increasing regularly in width, the last not descending, acutely carinated in the middle. Aperture almost diagonal, hatchet-shaped, peristome simple, columellar margin slightly dilated at the umbilicus.

Measurements of type.—Greater diameter 34.5 mm., lesser diameter 32.9 mm., height 16.1 mm., width of aperture 18.9 mm., height of aperture 10.8 mm.

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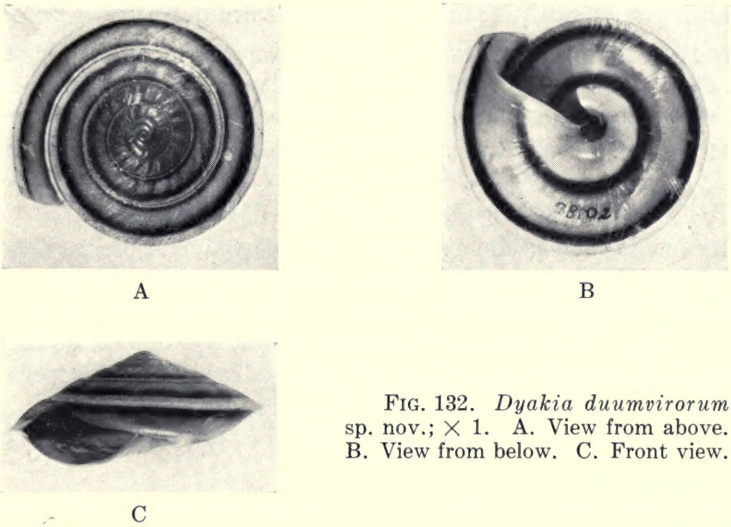

FIG. 132. *Dyakia duumvirorum* sp. nov.; × 1. A. View from above. B. View from below. C. Front view.

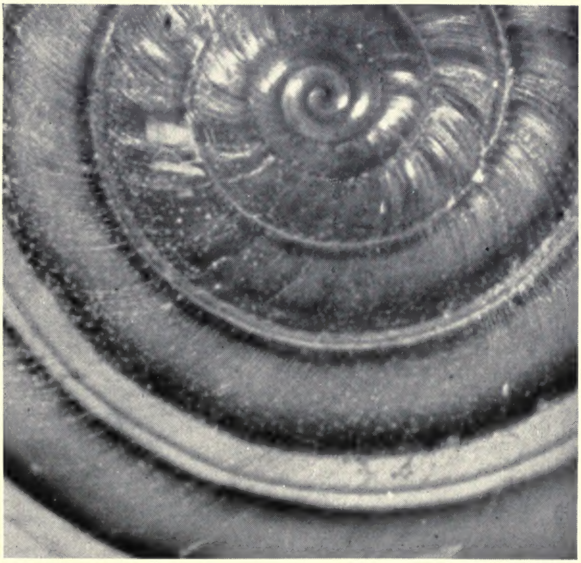

FIG. 133. *Dyakia duumvirorum* sp. nov., part of upper surface; × 6.

Notes on paratype.—The paratype, Chicago Natural History Museum No. 38103, with the same data as the type, has 6½ whorls and a greater diameter of 29.0 mm.

Hemiplecta (Hemiplecta) densa Adams and Reeve

One specimen from the Sepilok Reserve, Sandakan District, East Coast Residency, North Borneo, May, 1950. Two specimens from the Kinabatangan District, East Coast Residency, North Borneo, from the southeast end of Dewhurst Bay, May, 1950.

Amphidromus (Amphidromus) martensi O. Boettger

One sinistral specimen from the Sapagaya Forest Reserve, Sandakan District, East Coast Residency, North Borneo, July, 1950. One sinistral specimen from primary forest south of Segaliud River at Laut Lungmanis, Sandakan District, East Coast Residency, North Borneo, April 21, 1950. One dextral specimen from the Kinabatangan District, East Coast Residency, North Borneo, near the mouth of Little Kretam River, 100 feet above sea level, May, 1950.

The three shells listed above correspond very well with O. Boettger's description (1894), and with Fulton's figure (1896), both reproduced by Pilsbry (1900); they differ from it only in the color of the bands on the yellow basic shell color, which is said to be olivaceous-green in Boettger's specimens from Mount Kina Balu in North Borneo, but which begin yellowish-brown in our specimens on the earlier whorls, passing gradually into reddish-brown on the penultimate and into leaf-green on the ultimate whorl in the specimen from the Sapagaya Forest Reserve, and into reddish-purple in the remaining two specimens.

Amphidromus (Amphidromus) interruptus Müller

Two sinistral specimens from the Kinabatangan District, East Coast Residency, North Borneo, near the mouth of Little Kretam River, May, 1950.

This common species of Java, Celebes, Borneo, and Bali varies a good deal. The specimens listed above belong to von Martens' color form *infraviridis,* which is uniformly greenish-yellow or citron-colored with the base pale green, or also greenish-yellow.

Kaliella angulata Issel

Two specimens from the Kinabatangan District, East Coast Residency, North Borneo, southeast end of Dewhurst Bay, in primary forest, June 2, 1950. Described as a *Sitala* and quoted as *S. angulata* by subsequent authors, this species seems to me to be a rather typical *Kaliella.*

Leptopoma (Trocholeptopoma) skertchlyi E. A. Smith

Two specimens from the Kinabatangan District, East Coast Residency, North Borneo, at the southeast end of Dewhurst Bay, in primary forest, May, 1950.

Cyclotus (Opisthoporus) schmidti Martens

One specimen from the Kinabatangan District, East Coast Residency, North Borneo, from the southeast end of Dewhurst Bay, in primary forest, May, 1950.

Paludomus (Paludomus) isseli Brot

Seven specimens from the Kinabatangan District, East Coast Residency, North Borneo, from the southeast end of Dewhurst Bay, in isolated ponds in primary forest, June 15, 1950.

Clea (Clea) bangueyensis E. A. Smith

Two specimens, together with the preceding ones.

Corbicula (Corbicula) pullata Philippi

One specimen from the Sandakan District, North Borneo, Sapagaya Forest Reserve, July, 1950. The specimen is too corroded to allow exact classification.

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